ABSTRACT

Described herein is audio watermarking technology for inserting and detecting watermarks in audio signals, such as a music clip. The watermark identifies the content producer, providing a signature that is embedded in the audio signal and cannot be removed. The watermark is designed to survive all typical kinds of processing and malicious attacks. In one described implementation, a watermarking system employs covert channel encoder to layer an additional information data message on top of the watermark. Thus, an informational message is imposed upon the existing watermark encoded in a signal. In another described implementation, a watermarking system employs a permutation technique to further hide the watermark and it may hide the covert message within the watermark. The order in which data is imposed or encoded is rearranged based upon a permutation table. The same table is used to reverse permute the data at the detector.